



**STRATEGY
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**THE FUTURE OF ARMY AVIATION UNITS
IN THE SPANISH ARMY**

BY

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20020429 134

USAWC STRATEGY RESEARCH PROJECT

THE FUTURE OF ARMY AVIATION UNITS IN THE SPANISH ARMY

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ABSTRACT

AUTHOR: LTC Javier Sancho

TITLE: The Future of Army Aviation Units in the Spanish Army

FORMAT: Strategy Research Project

DATE: 09 April 2002

PAGES: 32

CLASSIFICATION: Unclassified

Spanish Army Aviation known as FAMET, is the organic integration of helicopter and support units. These units are equipped and structured in order to constitute different organizations for operations, each of them adapted to the operational plans which may be established for the development of the required airmobile combat and support actions.

FAMET operates a fleet of 150 helicopters and is organized into six helicopter battalions, supported by both a training establishment and a support and maintenance unit. One of these units is an anti-tank helicopter battalion equipped with the Eurocopter MBB BO-105 with HOT missiles, while waiting for a next generation of attack helicopters (FY 2005). The attack helicopter program is an important requirement that the Spanish Army is developing which is going to affect the rationale for a reorganization of the airmobile forces in the near future. The dramatic increase in capabilities of the new generation of attack helicopters make it necessary to review the role, organization and structure of Spanish Army Aviation for the future.

This paper will also review the conceptual and organizational developments in the US Army, as well as in other countries (UK, Germany) which have taken the decision to include the new generation attack helicopters in their inventory. It will explore the possibility of forming an Air Assault Brigade in the Spanish Army around the new attack helicopters as the centerpiece, and the possible impact of this concept in National Strategy and operations.

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THE FUTURE OF ARMY AVIATION UNITS IN THE SPANISH ARMY

AIM

The Attack Helicopter Program is an important program that the Spanish Army is developing which is going to affect the reorganization of the Army Aviation Units in the near future. The purpose of this paper is to review the role, structure and organization of Airmobile Forces in Spain in order to exploit the capabilities of the new generation of attack helicopters.

THE SPANISH ARMY TRANSFORMATION

After a long tradition of Spanish neutrality and non-involment in European and international affairs, Spain is once again an important member of the international community. Spanish defense policy has evolved in recent years and is now defined according to national needs and the requirements of the new international situation. In this context, the aim of the Spanish Army is to contribute to collective security and defense policies together with our allies. The security of Spain is closely linked to that of the neighbouring countries and others in areas of strategic interest¹.

In 1996 the Spanish Government, as stated in the Guidance on National Defense 1/96, determined to strengthen Defense by adapting it to the requirements of the new strategic landscape. The Government objective was threefold: to secure Spain a position as a member of the western community fully integrated into the Atlantic Alliance; its firm commitment to European Security; and the adoption of a new model of Armed forces based on the total professionalization of the Armed Forces².

According to these objectives, the Chief of Staff of the Spanish Army produced his strategic vision in a restructuring plan known as PLAN NORTE³. This plan represents the culmination of a process that is guiding completion of a transformation of the Ground Forces and will be concluded by the end of this year.

In the last years, we have witnessed a shift from the traditional concept of defense as defending a territory to a concept of collective deterrence, finally arriving at the current stage which entails conceiving defense also as the projection of stability. PLAN NORTE is a practical completion of the progressive abandonment of a concept oriented almost exclusively to the defense of national territory to another which, without neglecting this essential task, foresees a broader scope of action that includes other possible scenarios relating to missions performed within the framework of the international security organizations. New capabilities of ground forces include force projection, mobility, readiness and collective defense. This marks a considerable shift from traditional ideas in Spain about what defending a country and military and defense alliances should entail.

The modernization and lightening of the units called for in PLAN NORTE stem from criteria shared with our allies, making their forces more flexible, interoperable and highly mobile. From now on, missions, command structures, procedures for collective action, and in short, the way that the forces and their use are conceived, will be understood differently. Moreover, peace and humanitarian assistance operations, as well as crisis control, call for additional requirements to those needed for conventional military operations. This adaptation to current needs is shaping the multi-functional nature of the Army.

Today the Spanish Army consists of a varied set of resources, organized and trained to perform a broad range of military operations. The current structure consists of the Maneuver Force, the Area Defense Forces and the Specific Forces for Joint Action. The Maneuver Force is the Army's core element. Its personnel and equipment are readily available and enable it to act rapidly and respond to crisis situations. In order to perform its missions, both nationally and in the framework of Spain's international commitments, the Maneuver Force is comprised of a Mechanized Division, a Light Infantry Division (Spanish Rapid Reaction Force), a Cavalry Brigade, a Mountain Brigade and a Support Nucleous. Spain contributes most of its defense resources to shared security and has made the whole of its Army Maneuver Force available to NATO, as well as at the disposal of the Western European Union in the same readiness category, to undertake Petersberg⁴ missions.

The commitments include pledging forces to the Allied Rapid Reaction Corps (ARRC) and the Allied Rapid Mobile Force (AMF). Other contributions in the context of the European Security and Defense Identity (ESDI) include Spain's participation in the European Corps

(EUROCORPS) and the European Rapid Deployment Force (EUROFOR). Spain is also contributing to NATO operations in the Balkans.

THE SPANISH ARMY AVIATION TODAY

The Spanish Army Aviation, shortly after its formation (1965), adopted in 1972 the name of FAMET which stands for **Fuerzas Aero Moviles del Ejercito de Tierra** (Airmobile Forces of the Army). That name was chosen by our first aviators in order to facilitate, the future organization of an integrated air-land unit, although it included, and still does, only helicopter units:

FAMET is the organic integration of helicopter and support units. These units are under the command of Brigadier General and are included in the Support Nucleus of the Army Maneuver Force. FAMET is equipped and structured in order to constitute different organizations for operations, each of them adapted to the operational plans which may be established for the development of the required airmobile support actions to ground units.

It operates a fleet of 150 helicopters and is organized into six helicopter battalions, supported by both a training establishment and a support and maintenance unit. FAMET relies on a good transportation capability with 17 Chinooks, whose modernization program to the "D" model is now coming to an end. It also relies on a utility helicopter fleet, which will amount to 32 helicopters after the completion of the current acquisition program of Eurocopter Cougars together with the already available Eurocopter Super Pumas. The utility helicopter fleet is complemented with more than 50 useful UH-1H which, though rather old, have been improved with NVG capability, communications and avionics.

As for the attack helicopters –or anti-tank- there is one battalion equipped with the Eurocopter MBB Bolkow BO-105 with HOT missiles, while waiting for a next generation of attack helicopters. The attack helicopter program is an important requirement that the Spanish Army is developing which is going to deeply affect the rationale for a reorganization of the Spanish airmobile forces in the near future.

According to the above mentioned concept of FAMET the three main organizational principles agreed on are:

- Geographic concentration by helicopter families, in order to facilitate the training and their maintenance.
- Command centralization, meaning that Battalion Commanders directly report to FAMET commander, regardless of their Base location.
- Employment decentralization, forming specific tactical groupings tailored to the assigned missions, both in exercises and operations.

From these principles it can be drawn that the Battalions' organization in FAMET has been designed to facilitate training and to simplify maintenance activities while keeping only one helicopter family in each battalion. Consequently, helicopter battalions are not operational units by themselves. Tactical groupings are organized "ad hoc" to fulfill the assigned missions. They are generally formed on the basis of one battalion headquarters to which helicopter company-size units of different types from other battalions are attached.

This feature provides substantial capability to a system that generates operational units tailored for specific tasks. It favors common tactical and technical Standard Operating Procedures (SOP,s) among FAMET units and components.

AIR MOBILITY CONCEPT

In the Spanish Army, the interpretation of concepts such as "airmobile operations" and "air mobility" is close to that described in NATO publications. As a member of NATO the Spanish Army accepts and assumes these doctrinal concepts. Therefore, a great variety of operations may be included in the "air mobility" general concept ranging from simple "helicopter-borne" to "air assault" operations, to the more complex "air mechanization".

- **Helicopter-borne Operations.** *An Helicopter-borne Operation is one in which helicopters act in support of a formation, unit or organization to accomplish the movement of troops, supplies and/or equipment⁵.*

- **Air Assault.** *An Air Assault Operation is one in which integrated helicopter, ground, CS, and CSS forces, maneuver and carry out combat, in and from the air and from the ground⁶.*
- **Air Mechanization.** *An Air Mechanized Operation is one in which an aviation force, heavy in armed/attack helicopters, conducts independent combat operations from the air⁷.*

As a consequence of the Spanish integration into the NATO military structure and the full participation in the European framework activities, an effective process of real and substantial involvement in the activities, operations and planning process with our allies has recently started. Now Spanish helicopter units are fully involved in NATO and European operations, such as Operation Joint Forge or Joint Guardian.

In accordance with this commitment, the Rapid Reaction Division which the Spanish Army allocates under the Army Rapid Reaction Corps (ARRC) in the NATO framework, includes a full helicopter task group. This is basically structured into three battalion-size units: One anti-tank (MBB Bolkow BO-105) unit, one utility (Superpuma/Cougar) unit, and one transport (CH-47 D Chinook) unit.

The standard internal requirements for an airmobile or air assault operation to be performed by a task group like the one mentioned above, include the capability to project an Light Infantry battalion into an area of operations located some 150 kilometers away, both during the day and at night. A typical disposition of a helicopter task force needed for an airmobile operation of this kind is arranged in security, assault, and assault/support echelons by using approximately 80 helicopters. Success in this kind of operations is based on thorough SOP's, very well computed lift and transportation plans and, above all, significant training and understanding among participating units.

It is well known that these kinds of operations are developed in a wide spectrum of environments, ranging from open hostilities between military forces (war, medium or low, intensity conflicts) to operations in peacetime. Peacekeeping operations and evacuation of civilians (NEO) are included in the latter.

THE ATTACK HELICOPTER PROGRAM

Due to the attack helicopter's emerging importance, the Spanish Army has presented an important requirement⁸ to have at least one helicopter battalion-size unit. Although the basic concepts regarding its use and procedures should not differ much from the ones currently in place, the new generation of attack helicopters implies a qualitative leap. It will enhance the airmobile activities mentioned above by adding a new qualitative dimension and more possibilities to the land maneuver.

The attack helicopter program is pending decision, while the Army completes its assessment of the different helicopters of this kind to replace the Bolkow BO-105. The various alternatives are being studied from the operational, economic and technological points of view.

The requirement⁹ is for a total of 24 new helicopters, plus an option for an additional 12, to be delivered starting in 2005. During the selection phase the five competitors were the Eurocopter Tiger, the Italian Augusta A-129 Mangusta International, the US Bell AH-1Z Cobra (four rotor blade), the US Boeing AH-64D Apache Longbow and the South African Rooivalk. By the end of the selection phase, the list was down to leave two major players: The Apache Longbow and the Tiger.

THE AH-64D APACHE LONGBOW

The US Boeing AH-64D Apache is a day/night, twin-engine attack helicopter. It is equipped with a 30 mm chain gun, Hellfire missiles, 2.75" unguided rockets and is in the process to integrate an air-to-air missile. The Apache Longbow is a development and acquisition program for a millimeter-wave radar air/ground targeting system capable of being used day, night, in adverse weather, and through battlefield obscurants¹⁰.

Longbow integrates a mast-mounted millimeter-wave fire control radar (FCR), a radar frequency interferometer and a radar frequency fire-and-forget Hellfire missile on the Apache¹¹. The new radar system automatically detects, classifies and prioritizes up to 256 different targets

(tanks, air defense units, trucks or aerial targets) by showing icons on the cockpit displays. The radar also provides targeting data for a new radar-guided version of the Hellfire¹².

The current program objective in the US Army calls for the remanufacture of 501 AH-64A Apaches, of which 227 will be equipped with FCR. Other international customers are UK and the Netherlands.

THE EUROCOPTER TIGER

The Eurocopter Tiger is a day/night, twin-engine anti-tank and ground support helicopter. The Tiger has three variants: The escort-support (HAP) that will be equipped with a chin-mounted GIAT 30 mm turreted gun, air to air missiles (Mistral) and unguided rockets, the anti tank (HAC) equipped with the HOT-3 and TRIGAT missiles, as well as the Mistral, and the third variant will be the German army's multi-purpose (UH) whose weapons systems include a mixture of HOT-3, Trigat and Mistral and can also carry one or two 12.7 mm gun pods or 67 mm unguided rockets pods.

On 20 May 1998, France and Germany signed a commitment to order and initial joint batch of 160 helicopters. Production contract was finally signed on 18 June 1999; first deliveries in 2002¹³.

THE DECISION PROCESS

In comparison with the Tiger, the Apache can carry more weapons further than the Tiger, and has an extremely sophisticated targeting system based on a mast mounted millimetric radar that can acquire and prioritize multiple targets in seconds. The Tiger differs in being a more modern design, smaller, more maneuverable aircraft to fly and utilizes state of the art composite technology. The Tiger also differs in relying for target detection and identification on thermal imaging.

From an operational point of view, the preference of the Spanish Army is the US AH-64D due to the significant advantage of the Longbow radar and its intelligence gathering capabilities.

Other important advantages include the effectiveness of the new Hellfire radar guided missiles, and the higher military load capacity compared to that of the Tiger.

On the other hand, developing a common European defense requires the backing of a European armaments policy to harmonize military needs and the planning and procurement of weapon systems. Spain is currently taking part in the initiative aimed at restructuring the European defense industry¹⁴ and Eurocopter is assiduously presented it as the European helicopter industry.

Therefore, in the decision process, the Spanish Ministry of Defense is also taking into account the political, industrial and economical factors including technological transfers and global offsets. Needless to say that the final decision will be made by at high government level , therefore the different issues mentioned above can overturn the military's preference since the helicopter selection has political ramifications over the military requirements. Nevertheless, with the introduction of any of the two attack helicopters mentioned above (Apache or Tiger) over the next few years, the Spanish Army will possess one of the best weapon systems ever deployed that will revolutionize the Army's battlefield capacity.

The US Army has considerable experience in operating the AH-64 Apache. Therefore, for the purpose of this paper it will review the conceptual and organizational developments in the US Army, as well as in some of the countries (UK and Germany) which have taken the decision to include a new generation of attack helicopters in their inventory, to explore its possible application in the Spanish Army.

ORGANIZATIONS IN OTHER COUNTRIES

THE US ARMY AVIATION

"Aviation is the relevant force for the 21st century providing combat, combat support, and combat service support capabilities across the spectrum of full-dimensional operations. Its inherent versatility, maneuver advantage, and war fighting effectiveness will influence all dimensions of the future battle space. Highly motivated aviation soldiers, equipped with modern

systems and trained to world class proficiency, will provide commanders at all levels and exponential increase in lethality, the leadership to harness the technological revolution of the digital battlefield, and the ability to achieve decisive victory^{ul5}.

To support Army operations, Army Aviation units are organized in aviation brigades. The aviation brigade is a fully integrated member of the combined arms team. It operates across the entire length and breadth of the battlefield (close, deep and rear) and conducts simultaneous operations 24 hours a day. Aviation brigades are organic to all Army corps and divisions.

In order to support Echelons Above Corps (EAC), corps and division operations, theater aviation brigades are also organized. EAC brigades conduct combat, CS and CSS according to theater operational requirements. Theater aviation units primarily support subordinate tactical units in the corps and divisions, although theater units may be required to conduct theater rear area security. These units may also serve as a tactical reserve.

Among the corps, there are some differences concerning composite unit designations, but the organizations are basically similar throughout the Army. The corps aviation brigade is composed of one HHC, one aviation group, and one attack regiment. The mission is to conduct attack, reconnaissance, security, air assault, command and control, and air movement operations throughout the corps area of operations. It may operate directly for the corps commander or be placed under OPCON of a subordinate division.

The designs of the division aviation brigades have been tailored to meet the specific needs of the parent division, whether it be heavy, light, airborne or air assault. The division aviation brigade is the primary level of integration, however, aviation units can be integrated into the combined arms down to the level at which they will be employed, for example under OPCON of a maneuver brigade.

Special mention deserves the aviation organizational structure of the 101st air assault division. The aviation brigade of the air assault division has the largest helicopter fleet (over 300 helicopters), and comprises nine helicopter battalions (three attack, three assault, one medium lift, one general support and one aerial reconnaissance). The primary mission of this unit is to deploy worldwide on short notice; plan coordinate, and execute aviation operations as an

integrated element of an air assault combined arms team; and find, fix and destroy enemy forces in joint, combined or unilateral operations. *"The air assault division uses its attack helicopters to set the conditions for the air assault of the light infantry brigades. The division may employ attack helicopters deep on independent operations, however, normally the three battalions are assigned supporting roles for the three infantry brigades"*¹⁶.

The Army Aviation Warfighting Concept of Operation describes how Army aviation will contribute to operations and fight as a member of the Army's combined arms team in joint and multifunctional operations. It focuses on Army aviation's contributions to situational awareness through reconnaissance and security operations, precision engagements, and its ability to rapidly react throughout the spectrum of operations. Army Aviation will act as a part of a joint, combined, or multinational force in future operations. Aviation's ability to operate in all dimensions of the battlespace is a dominant force multiplier¹⁷.

To meet future challenges, the US Army Aviation is conducting an important modernization plan (Aviation Modernization Plan 2000). US Army Aviation modernization is centered on the Comanche, Longbow Apache and Improved Cargo Helicopter. Meanwhile, the recapitalization efforts are focused on the Chinook, the Black Hawk and the Apache. *"Combined, these valuable tools will provide to the aerial reconnaissance, attack, utility and cargo fleets the capabilities needed for operating across the spectrum of conflict"*¹⁸.

*"One day in the not-too-distant future, these airframes will converge on the battlefield to give the Army the added dimension to achieve true full-spectrum dominance. The synergy between Comanche and Apache Longbow, coupled with the abilities of UAV,s will extend aviation's area of influence by four or five times what it is today"*¹⁹.

On 7 September 2001, the Army decided to revamp its 2000 Aviation Modernization Plan²⁰. Based on operational experience and in the objective force concept "train-alert-deploy", the Army decided to change the organization of the helicopter battalions from "pure fleet" helicopter battalion to multifunctional aviation units. This will permit to have a structure that matches with the way the aviation units fight, and how the US Army most recently has employed Army aviation.

Army aviation's organizational solution to meet future missions demands is called the Multifunctional Battalion (MFB). This basic building block at both division and corps includes a balanced mixture of attack, reconnaissance and lift aircraft. This decision implies a deviation from the homogenous organizations of the current force structure. The MFB will possess full-spectrum capability to rapidly deploy and conduct Army single-service and joint operations from major theater of war conflicts to small-scale contingencies and humanitarian relief efforts²¹.

THE UK AIR MANEUVER CONCEPT

*"In September 1999 the British Army formed 16 Air Assault Brigade fusing air assault infantry and army aviation units, for the first time, in the same formation. Forty eight WAH-64 Apache Longbow Attack Helicopters (AH) will be operational within the Brigade by 2004. The Apache, as an integral part of the Army's Orbat, will represent a significant enhancement to the Land Component Commander's capability. The AH's range, lethality, speed and survivability will enable it to make a significant contribution to ground maneuver particularly deep operations"*²².

The 16 Air Assault Brigade is a unique formation within the British Army, bringing together aviation and parachute capabilities. A rapidly deployable brigade, it is designed to open or secure points of entry for other land or air forces. Bringing together capabilities from the airmobile and airborne brigades has created a formation that considerably strengthens the combat potential of British Armed Forces. With the introduction of the Apache attack helicopter, 16 Air Assault Brigade will have a new generation weapons system at the forefront of military capability. 16 Brigade has replaced the 24 Airmobile Brigade as one of the four formations assigned to NATO's Multinational Division (Central)²³.

The Brigade consists of a Brigade HQ, Air Assault Aviation (3 Regiments equipped with the WAH-64 and Lynx helicopters), Air Assault Infantry (2 Parachute Battalions and 1 Line Infantry Battalion), 1 Cavalry Squadron, 1 Parachute Artillery Regiment, 1 Engineer Regiment and Combat Service Support. The Brigade has no organic transport helicopters. It therefore depends on Royal Air Force support helicopters for its mobility. Puma and Chinook are the main helicopters used. On exercises and deployment they will be controlled by Support Helicopter Force HQ, usually located within Brigade HQ²⁴.

Air Maneuver seeks to blend ground forces, attack helicopters, support helicopters, air transport, offensive air support and the use of the electro-magnetic spectrum, within a combined arms and joint approach to operations. The current British Army definition of Air Maneuver is:

*"Operations within the Land Component Scheme of Maneuver, seeking decisive advantage by the exploitation of the third dimension; primarily by combined-arms forces centered around and integrated with rotary wing aircraft, supported by other component elements, within a joint framework – nationally and multi-nationally"*²⁵

Air Maneuver will be capable of conducting the core functions of finding, fixing, and striking, throughout the operational framework of Deep, Close and Rear operations. It will be especially significant in the prosecution of deep operations. As aviation platforms become more capable in terms of firepower, protection, mobility and the ability to process and react to information, Air Maneuver is likely to be of increasing importance within alliance/coalition operations²⁶.

Air Maneuver will provide the Land Component Commander with an ability to increase his Area of Influence and hence the Area of Operations assigned to him. Within these areas, he will have the ability to carry out high tempo, decisive operations, and will be freed from some of the traditional constraints of the terrain²⁷.

Air Maneuver is being developed by the British Army as a Main Effort Capability focused on warfighting and shaped to deliver decisive effect. It can be grouped in a modular way at the appropriate level of command so as to deliver an effective force package for the particular operational circumstance. In this way its ability to achieve effects above the tactical is preserved while still allowing effective integration with smaller force packages²⁸.

Air maneuver operations are best explained using a spectrum showing the two key components, Attack Aviation and Air Assault Infantry. At one end, Attack Aviation is the more prominent, while at the other extreme, air assault infantry are dominant. To offer greatest utility and choice, the Brigade operates in the center ground, looking to make best use of the two maneuver assets as the situation requires it²⁹.

GERMAN CONCEPT OF AIR MECHANIZATION³⁰

On 1 April 1997, the mounting of Air Mechanized Brigade 1 in Fritzlar (Germany) marked the first step to realization of air mechanization in the German Army, by putting together two Anti-Tank Regiments and one Light Transport Helicopter Regiment. The two main systems employed by this brigade are the Eurocopter MBB BO 105 and the Bell UH-1D. Both will be replaced in the near future. Air Mechanized Forces are:

"Airmobile Forces which are able to conduct the Combined Arms Battle Operations in and out of the Air, by Integrating Firepower, Air Transport and Airmobile Elements of CIS and CSS, in Supporting or Independent Operations in all Types of Combat. The corresponding concept is called Army Air Mechanization. It will be focused on the UH TIGER combat helicopter and the NH 90 / LTH Heer light transport helicopter. These will become the backbone of German Army Airmobility in the near future".

In the tactical development towards airmechanization, the organization with new helicopters is essential for its realization. In this respect the Brigade is in a phase of transition from past to future, trying to cope with all missions of the today's task spectrum, while at the same time preparing its procedures, structures and personnel for the future. The fact that this brigade has already been activated although the aircraft required to make airmechanization a reality will only enter service within the next few years and, operational units will not be available until 2007 / 2008, might be considered as a peculiarity. So far the name of the brigade is more a concept than reality. However, the German Army does not consider this as a disadvantage but an opportunity for making a newly created unit operational and doing conceptual groundwork to ensure that this formation will be fully operational without delay as soon as the required weapon systems will enter service by adjusting structure and concepts before their realization.

"1 Air Mechanized Brigade is not an air assault unit, tasked with supporting and conducting air landing operations; rather, it is designed to conduct exclusively independent air-to-air and air-to-ground operations in all types of combat with attack helicopters"³¹.

The mainstay of the firepower of German airmech forces will be the attack helicopter Tiger. Its agility, optimized weapons symbology combined with the mast mounted sight permit long target standoff distances with its different weapons configurations.

The second major weapon system will be the LTH NH 90. It is intended to transport personnel and internal and external cargo loads. In its normal mission configuration it can carry up to 20 passengers or 16 fully equipped soldiers, a number which will be reduced in the self-defense configuration, when three machine guns get mounted and limit the available space.

It is the Air Mechanized Brigade's means of transport for logistic goods during relocations over long distances, ensuring survivability in the deep battle or extremely wide operational areas, and for airmobile combat units in airborne operations. But other characteristics of the NH 90 are even more significant than its capabilities alone. The main function of this helicopter will be as a carrier of mission equipment packages (MEP). The NH 90 is an essential element of the combined arms combat team. Currently, the German Army is planning to field NH 90 mission equipment packages which cover the following functional tasks: Command and Control, Reconnaissance, Combat support and Combat service support.

The individual mission equipment packages will have the following performance characteristics:

- The long-range reconnaissance MEP enables situation and target reconnaissance up to a distance of 150 km thus providing the basis for deep operations.
- The electronic warfare MEP enables the degradation of the hostile command and control capability and air defense.
- The medical evacuation MEP, which will be used for the requirement of ensuring the medical care and evacuation of casualties in the flying units even in deep and long-distance operations.
- The NBC reconnaissance MEP provides a capability for a non-contact aerial reconnaissance of chemical and nuclear contamination.
- The POL transport MEP will be owned by army aviation units to assure airmobile transport of aircraft fuel in deep operations.

In the German understanding of airmechanization, they are creating a combination of attack helicopters, air mobile transport and the functional capabilities which are provided by the mission packages for the NH 90. The concept only considers ground units to provide force protection to the assembly areas and forward arming and refuelling points (FARPS). The Brigade will not have any organic ground maneuver unit. In the German concept it is inefficient to harness high mobile forces to ground forces. Their operational speed would greatly hamper airmech forces and unduly expose it to enemy threat and attrition.

Because of its essential resources, the air mechanized Brigade will normally be under command and control of the corps. It is also possible to attach an airmech task force consisting of a reinforced Tiger regiment to the division level. The superiority of such an element in terms of mobility and firepower offers the opportunity to conduct operations with air mechanized forces in a way as to decide the battle not by frontal engagements of the main bodies, but by hitting the enemy in his center of gravity. Airmechanized forces can project, concentrate and shift very high fire power, very rapidly and over great distances. Their tactical, operative and strategic mobility therefore makes them especially suited to meet all imperatives of crisis management.

With these capabilities airmechanised forces therefore compensate for the fact, that ground forces will only marginally be able to increase their speed of manouver in the future. Airmechanization will fulfill its new role in achieving and maintaining the initiative. However, Airmechanized forces are no substitute for ground forces, they will supplement existing capabilities to increase the army's efficiency.

LOOKING INTO THE FUTURE

Such experiences regarding air assault or air mechanized operations in the countries mentioned above, will place the Spanish Army in a situation in which the new technologies entail a leap, unthinkable until recently, in the employment of the third dimension as an essential factor in future land combat.

All the advantages will be on the side of the new generation attack helicopters. Their evolution implies a qualitative leap, providing the Land Commander' with the possibility of leaving aside traditional schemes. This is possible thanks to their mobility, speed, endurance and fire

power altogether. Their excellent possibilities in gathering and managing information are also very important.

These modern highly multi-purpose attack helicopters, will become not only a “force multiplier” in the classical sense, but also a powerful “multiplied force”, by itself . That is why the Spanish Army has presented an important requirement concerning attack helicopters which could add a new qualitative dimension to the overall maneuver possibilities, and the need to review the role, organization and structure of the Spanish Army Aviation for the future.

Apart from common criteria, I would like to elaborate on some specific concepts adapted to the Spanish situation to find an organizational solution. These concepts are the following:

Versatility: Once the new generation attack helicopters have been fully integrated in the Spanish Army inventory, the helicopter’s units will be increasingly considered “maneuver” units. Thus, the concept of “support unit” to other ground units, will be gradually overcome, although this concept will still be in place. Therefore, a permanent tie with ground and logistic units will be necessary for operations, in order to be able to perform the following:

- Attack helicopter-preponderant “independent” missions.
- Limited “air assault” operations.
- Traditional missions in support of ground units.

Flexibility: In such a way that they could be adapted to very different scenarios and environments (war, crisis, humanitarian support, etc). However, all this cannot be improvised, especially the formation and training of a number of headquarter staffs able to effectively hold command and control in these many different scenarios.

Modularity: This is a very important emerging concept. It will be increasingly necessary to have the capability to generate different unit packages adapted to the missions according to the versatility and flexibility above mentioned. This structure must allow modules to be separated from the organic force units and assigned to the operational structures to settle a particular conflict.

Once these principles are put into practice, the formation of an Air Assault Brigade around the attack helicopters as the centerpiece, would be totally feasible. This Brigade could be made up of three elements:

- Helicopter units, including new generation attack helicopters, utility and transport helicopters. They should have flexible and versatile headquarters.
- Ground Units (Light infantry, Engineer, Artillery and Artillery Air Defense) with a high level of readiness especially trained for protection and security activities and limited air assault operations.
- Combat Service Support units, able to integrate general logistics with helicopters supply and maintenance, and specific reinforcement to helicopter Battalions (aviation fuel, fire-prevention material, search and rescue equipment, etc). Important training in Forward Operating Bases and FARP,s organization and management is required by this element.

The organization in detail and operational relationship among these three elements is an issue which requires a deep analysis and a continuation of the current studies on the acquisition of modern attack helicopters. In any case, it is always important to develop a close and common training and very precise SOP's, in such a way that, based on these three elements, action packages adapted to each situation can be generated in a fast and effective way. The decentralized use of this Brigade, especially in Military Operations Other than War (MOOTW) must therefore constitute one of the principles on which training is based.

THE IMPACT ON NATIONAL STRATEGY

Spanish military strategy is characterised by the idea of anticipating conflicts through a combination of deterrence and prevention or, if the conflict erupts, being able to muster a decisive and suitably proportioned response in order to achieve the strategic objectives, keeping undesired effects to a minimum³². The purpose of deterrence is to ward off a possible attack on national interests through the threat of inflicting unacceptable damage on the potential aggressor. The power of deterrence is based on credibility –which stems from the size, preparation and availability of a country's military force- and on the firm will to use it necessary. As a guarantee of Spain's vital needs in any scenario, military strategy as a matter of principle must maintain an appropriate conventional capability. A basic consideration, which

should be a prevalent feature of the Spanish Armed Forces', is permanent readiness for action. The Force structure should be able to provide military resources with the appropriate availability and combat capability so as to graduate their use from the outset of a crisis.

The Armed Forces require military capabilities that enable them to perform their missions successfully, by implementing military strategy in an environment such as the current one in which the nature of the conflicts is not easy to predict. Set courses of action in response to a defined threat are no longer valid. Flexible structures and procedures are needed to enable the Army to react appropriately to any risk situation. It is therefore necessary to have forces that are permanently available and ready for action.

The fact that Spain is basically a peninsula with archipelagos in the Mediterranean and the Atlantic and enclaves in North Africa, requires the capability of projecting military potential. Due to their flexibility, versatility and the capability to bring rapidly decisive combat power at the decisive point, an Air Assault Brigade is particularly suited to demonstrate and project military power in war or in crisis management operations to respond to Spanish national needs or to contribute to collective security within NATO and other security bodies. Therefore, the multidirectional conflicts that characterize the new century, calls for the organization of an Air Assault Brigade capable of meeting the broadest variety of national and international commitments.

CONCLUSIONS

In order to ensure an adequate response to the requirements and challenges of the strategic environment at the beginning of the 21 st century, the Spanish Army faces the unavoidable need to upgrade its defense mechanism with modern equipment and doctrine. This must be done in consonance with active participation in major international issues, firm commitment to European defense and full integration in NATO.

I am firmly convinced that Army Aviation units in Spain have to abandon their current role as a combat support units and play a major role as a maneuver units in the future battlefield. I am also aware of the difficulty to best articulate these new means and capabilities, and of the need to overcome conceptual barriers still alive in the Spanish Army. But, it is evident

that an adequate articulation of these means, arranged in a balanced way with the overall potential of the Army, is going to become an important tool, not only at the tactical level, but also at the operational and strategic level, that will certainly provide an important deterrent factor.

For this reason, the Spanish Army now has an extraordinary chance to give definitive impetus to the process of restructuring the Army by undertaking boldly and firmly the design of a very effective Air Assault Brigade.

Word Count: 6.187

ENDNOTES

¹ As stated in the Preamble to the Guidance on National Defense 1/96 signed by the President of the Government on 20 December 1996: "Spain, convinced that our security is closely linked to that of the neighboring countries and others in areas of strategic interest, is today fully committed to achieving a more stable and secure international order based on peaceful co-existence, the upholding of democracy and human rights and respect for the rules of international law".

² This approach to defense is backed by the report of the Joint Congress-Senate Commission which was approved by the Congress of Deputies in full session on 28 May 1998.

³ NORTE is an acronym that stands for "Nueva Organización del Ejercito de Tierra", and in the Spanish Language, norte (north) can also mean azimuth, direction or bearing.

⁴ Humanitarian and rescue tasks, peacekeeping tasks and tasks of combat forces in crisis management, including peacemaking carried out by the European Union are known as the "Petersberg missions" (the district of Bonn where they were agreed on 19 June 1992).

⁵ NATO Unclassified Publication ATP-49 C. Use of Helicopters in Land Operations. Chapter 8 Airmobile Operations.

⁶ Ibid

⁷ Ibid

⁸ Spanish Army document on, Operational Need for an attack helicopter. April 1998.

⁹ Spanish Army document on, Operational Requirements for an attack helicopter. November 1998.

¹⁰ Apache Longbow Recapitalization. Weapons systems. United States Army 2001

¹¹ Ibid

¹² Glenn W. Goodman, Jr. Longbow introduction. Armed forces Journal International. June 1998

¹³ Jane's. All the world aircraft. 2000-2001.

¹⁴ Letter of Intent with Germany, France, Italy, UK and Sweden on 16 July 1998 to establish a cooperative framework to facilitate this restructuring.

¹⁵ Aviation Vision. Army Aviation Operations. FM 1-100. 21 February 1997.

¹⁶ Maj. Charles A. Jarnot. Air Mech XXI: New revolution in maneuver warfare. Fort Leavenworth, Kansas 1996.

¹⁷ A detailed description of the Army Aviation Warfighting Concept of Operations can be found in the TRADOC Pamphlet 525-80. August 1998.

¹⁸ MG Al Sullivan. Aviation in the Army Transformation: The strategy fo 2001 and beyond. Army Aviation. March-April 2001.

¹⁹ MG James R. Snider. Anticipating Transformation. Army Aviation. March-April 2000.

²⁰ Naylor, Sean D. Army to Revamp Plan for Choppers again. Air Force Times, 9/24/2001, Vol. 62 Issue 9.

²¹ MG Anthony Jones. Aviation Modernization Strategy - 2000 and beyond. Army Aviation. May 2000.

²² Colonel Paul Gibson. The development of the UK's Air Maneuver capability. SRP Army War College. 21 March 2001.

²³ 16 Air Assault Brigade Internet home page. Organization of the 16 Air Assault Brigade. http://www.army.mod.uk/16_aaslt_bde/forewd.htm.

²⁴ Ibid.

²⁵ British Army Doctrine Handbook. Doctrinal Note 00/2. Air Maneuver Operations. Issue 1.0. July 2000.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

²⁹ 16 Air Assault Brigade Internet home page. Organization of the 16 Air Assault Brigade. http://www.army.mod.uk/16_aaslt_bde/forewd.htm

³⁰ The German Air Mechanization concept expressed in this paper is based on a presentation of the research and development branch of the German Army Aviation School provided by the German Liaison Officer at CSGC in Fort Leavenworth.

³¹ BG Budde Commander of the Army Aviation of the German Army. The influence of Attack Helicopters on the 21st Century Battlefield.

³² Ministerio de Defensa. Secretaria General Tecnica. White Defense Paper 2000.

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